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ABSTRACT

The paper considers the value and implementation of routines in the educational setting with learners who have severe handicaps. Part I outlines the importance of routines as an intrinsic part of the teaching process, and reviews the potential benefits to the student of routine-based teaching. Benefits include the observations that routines: facilitate attending; facilitate natural cues; serve as a foundation of memory; are tools for concept building; can ensure functional competency; and ensure basic learning competency. Part II provides a practical method of implementing a program of learning in which routines are the basis of all instruction. Elements present in an effective classroom are identified, and the steps necessary to achieve an effective classroom when using the routine-based model with students having severe and multiple handicaps are identified. These steps include: (1) choosing activities, (2) setting up a daily schedule, (3) grouping students, (4) scheduling the groups, (5) writing routines, (6) selecting assessment measures and objectives, (7) integrating objectives into routines, (8) choosing the teaching method for the objectives, and (9) keeping data. An example is provided of an individualized arrival routine, prepared as a data sheet. (Author/DB)

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Better Ways to Build Educational Routines

Part 1: Routines: Understanding Their Power

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Abstract

The paper is presented in two separately authored parts. Part I outlines the importance of routines as an intrinsic part of the teaching process, and reviews the potential benefits to the student of routine based teaching. Part II provides a concrete example of the utility of routine-based teaching for students with severe handicaps.

All educational settings have a necessary, underlying organizational structure. This structure expresses itself in predictable events or routines which occur, in order, day by day. These routines, good and bad, are an intrinsic part of the teaching process. Recently, educators of learners with severe handicaps have been trying to use routines more effectively in the classroom (Brown, Evans, Weed, & Owen, 1987; Donnelan & Neel, 1986). Furthermore, curricula and strategies are currently being developed to assist educators in being better able to plan for the inclusion of routines within their educational settings (Frans, 1987). Education, in general, should be aware of this emerging technology since information from other cognitive sciences suggests that routines and the process of routinization are a fundamental and necessary human activity associated with learning. What follows is our summary and integration of the ideas and concepts that account for the success of routine-based programming.

The more competent the learner, the faster the underlying classroom routines are mastered and the faster the student can turn his/her attention and effort to the learning tasks the teacher wishes to present. In classrooms where learners may be encountering difficulty learning the basic routines, however, teachers can have a greater problem. In this situation, teachers may feel that they don't have enough "quality" teaching time; they have to spend too much time just moving the students through the day. Routine-based programming allows teachers to integrate learning of the classroom routines with other instructional objectives, improving the quality of teaching time, and student internalizing of daily structures and routines.

Routines facilitate attending. From the work of researchers in the field of information processing (Kahneman, 1973; Norman & Bobrow,

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1975), we know that routines facilitate easy, efficient use of attentional and physical resources. Repeated practice (routinization) of activity facilitates the use of fewer attentional/physical resources to do that activity, as the activity becomes more automatic. Therefore, the attentional resources and effort can be applied to other, more complex, learning. A second and important benefit of routinized activities is that the attentional patterns associated with routines are often calming and regulating, highly valued in a classroom.

Routines facilitate natural cues. As some educators of learners with special needs are pointing out (Carreiro, Frans, Hinves, & Townsend, 1987; Donnelan & Neel, 1986), daily routines are effective because the cues to initiate behavior can be embedded in the activity itself. For example, the cue for putting coats away becomes a locker or coat hook. *In a natural routine, one step acts as a cue for the next step.* Objects stand as excellent cues for functional action. It should also be noted that this type of cueing is nonlinguistic and therefore does not depend on a person (teacher) to be maintained. Therefore, routinization provides a significant degree of independence for these learners.

Finally, routines develop in a learner the expectation not only of "action starting," but also of "action ending." Routines themselves become cues for maintenance of attention for the duration of the routine and for task completion (i.e., following the whole routine through to its natural end).

Routines as a foundation of memory. Another interesting perspective on routines is obtained by examining the recent work of Tulving (1985) on memory. The development of sophisticated memory is dependent on a core memory system; that is, procedural memory, the ability to retain a simple everyday "low attentional" understanding of how things work. From our perspective, we note that routine mastery will help to develop concepts of how things work (procedural memory), and thus enable organizing and remembering information efficiently.

Routines as tools for concept building. Routines are basic building blocks of concepts. Piaget, for example, emphasized the importance of having internalized an activity so that a learner knows when a change occurs that needs to be attended to and learned (Lerner, 1976). The Piagetian concepts of assimilation and accommodation can be viewed as responses to prior learned routines. We have found that, in developing notions of time and space, a learner must have a sense of routine to provide the foundations for the learning of sequence, position, and organizational concepts.

Routines can ensure functional competency. Routines which are based on natural and common human activities (e.g., washing, shopping, cooking) provide two powerful program options to teachers. First,

teachers can incorporate a number of goals for a number of learners into each routine. The routine will meet the need for always ensuring that a context is provided on a repeated basis for any social, cognitive, or academic goal. Individual goals in individualized skill areas can be developed for each learner. Beyond this, however, routines can provide a teacher with a sense of developing competency across a whole, functional task. Mastery of the skill sequences themselves greatly enhances the student's long term ability to be successful in the community by developing skills in the contexts where they are needed.

Routines ensure basic learning competency. Routine programming is sufficiently flexible to meet a large variety of teacher and student needs. For those learners considered the most difficult to teach (i.e., those having difficulties attending to a range of environmental stimulation, e.g., those learners who interact with the world in violent and self-abusive ways) routines provide a means whereby teachers can identify small units of competency and build on them. Preferred objects and events that are calming or interesting to the learner can be expanded systematically within the context of routines to increase the overall competency of the learner. Routines can thus be completely specialized to meet the object and action needs of each learner.

Both specialized and functional routines can be used to teach learners other basic learning competencies as well. Learners at any level of development need to be flexible and to be able to solve problems. We can do this via routines by altering the form (objects used), place the routine is executed or the purpose of the routine. We can also deliberately sabotage routines to create opportunities for learners to recognize what is wrong and search for solutions or help.

Routines, therefore, are a powerful and complex tool available to teachers. They provide a means whereby teachers can achieve the many goals set for themselves and their students. These include the establishment of a classroom setting which optimizes the amount of teaching time available to it; the development of theoretically and practically sound teaching practices; the enhancement of individual learning competency; and the development of long term skill competencies to facilitate student independence and community integration.

Part II: Implementing a Program of Routine-Based Instruction for Students with Severe Handicaps.

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Abstract

Part II of the paper provides a practical method of implementing a program of learning in which routines are the basis of all instruction. Elements present in an effective classroom are reviewed and the steps necessary to achieve an effective classroom when using the routine-based model in educating students with severe and multiple handicaps.

The routine-based model is a method of teaching curriculum goals within the context of routines. Functional routines are preferred as they have meaning for the student and serve some useful purpose (Brown, et al., 1979). An example of a functional routine would be the student's arrival at school with its related activities. The "grasping" objective can be taught during an arrival routine where the student is to place his/her lunch box in a given spot. In this same routine, naming or identifying body parts can also be practiced while a student is removing his/her outer clothing.

Elements of an Effective Routine-Based Classroom

Whatever style of teaching is adopted for the special needs student, the classroom environment must display certain properties conducive to learning and teaching. These include the structure of the classroom as well as the content of the material taught. There must be a structure that allows for maximum productive time for a student as well as the most efficient use of staff time. The content must be appropriate and meaningful to the age and mental functioning of the student, and must be taught in appropriate places at suitable times (Brown et al., 1979). Furthermore, to ensure optimal learning, suitable teaching strategies must be employed. Finally, there also needs to be a system of accurate data keeping to make certain that the set objectives are actually being taught and to enable the measurement of student progress (Smith & Snell, 1978).

With these basic principles in mind, we next focus on the steps involved in creating the model.

Creating the Routine Model

1. *Choosing activities.* With the routine-based model, the first step is to decide what activities to use. Begin by looking at the obvious ones, such as arrival in the morning, going to the bathroom, eating,

and leaving for home. Then look at those that would be beneficial to mental and physical health such as morning exercises, grooming, and gross motor and recreational activities. Next look at things that adults usually do for the students, such as cleaning laundry, preparing lunches, and sweeping up after lunch. Look around and see what other jobs can be done by the student as a vocational activity. This might include food preparation or delivering mail.

2. *Setting up a daily schedule.* Set up a basic schedule using the activities you identify. Selecting appropriate places and times, fill the complete school day as in the following example used in a class of students with severe and multiple handicaps: 9:30—arrival, bathroom, and leisure; 10:00—morning exercises; 10:15—snack; 10:30—cook item for lunch, heat individual lunches; 11:10—bathroom and organized leisure; 11:30—lunch; 12:30—bathroom and grooming; 1:00—story or poetry reading; 1:15—physical education and therapy; 2:00—departure activities.

   When using the routine model for teaching all curriculum skills, the actual activity will normally take somewhat longer. For example, when the naming of body parts is an objective while outer wear is being removed during the arrival routine, more time will be required for the routine. As a result, the daily schedule is somewhat relaxed but a great many skills are taught in a way that is not stressful to the student.

3. *Grouping students.* With a basic schedule in place, the students should be grouped in such a way that they will be able to work together effectively. The number and size of groups are directly related to the number of students in the class and available staff. It is suggested that groups be made up of students with mixed abilities. For instance, it is wise to have an ambulatory student with a student in a wheelchair. This gives the ambulatory student the opportunity to help push the wheelchair and thus learn another skill. It also results in a more cooperative effort in carrying out the routine than the situation where the students are equally physically able.

4. *Scheduling the groups.* Once a basic schedule has been developed and the groups have been determined, it is necessary to fit the groups into a schedule. Many routine tasks will be done simultaneously by all groups and some, such as cooking or making lunches, will be done by only one group at a time. Since it is important to keep the activities appropriate to time and place, cooking and making lunches will be done by only one group per day, with other groups doing different activities at that time.

5. *Writing routines.* When activities are identified and the groups organized, the class can begin. However, in order to make activities structured and easy to learn, they need to be written into basic routines as soon as possible. These will become the vehicles for teaching the objectives chosen for each student. To write a routine, list all the elements of the activity in the order that they will be performed. At this stage, the routines will be written simply, with just enough detail to ensure that the activities will be done in the same way every time. Later, each routine will be adapted to the needs of the individual student, as illustrated.

6. *Assessment and objective selection.* The objectives that will become part of the Individual Education Plan can now be determined. It is important to choose objectives appropriate to each student's developmental level. An efficient method of choosing objectives is to use an assessment instrument, based on a developmental and functional curriculum. Such a curriculum-based assessment will be broken into a number of areas such as communication, cognition, motor skills, and self-help skills. By observation and testing, as well as by consultation with parents or guardians and appropriate professionals, suitable objectives can be chosen from each of these areas.

7. *Integrating objectives into routines.* With the routines written and objectives chosen for each student, the next step is to integrate the objectives into the routines. The routines should be carefully scrutinized to determine which of the objectives can most appropriately be inserted. In this way, each objective may be placed in several routines, giving ample opportunity for practice and enhancing generalization. For example, if a suitable objective for a student is to name objects, he/she can do this by naming items of outer clothing in the arrival routine, naming foods in the lunch preparation routine, and naming items used in the grooming routine.

8. *Choosing the teaching method for the objectives.* The objectives have now all been placed in the routines, resulting in individualized routines for each student. Now, an appropriate method of teaching each objective must be selected. The objective will determine the type of approach to take. For example, imitating simple body actions would likely be taught using prompt levels whereas drinking from a cup would probably be best taught using task analysis.

   The teaching steps for each objective can be placed under the objective in the routine so that the routine steps, the objective, and the teaching sequence for the objective are all conveniently together.

Arrival

	Date										
The student will enter the class, put lunch in the appropriate place, remove outer wear and engage in a leisure activity											

Walk to the class room

Put lunch on trolley

Name objects Name clothing items being removed										
1 imitate word										
2 given first sound										
3 independently										

Take off hat

Take off coat

Take off boots

Point to clothing shown in large pictures (before item is placed in proper place) Use pictures of clothing being worn										
1.points to item with no distracters present										
2.points to item with 1 distracter picture present										
3. with 2 distracter pictures present										

Hang up coat

Hang up hat

Put boots on shelf

Put on shoes

Go to leisure area and get toy or book

Play appropriately with some toys										
1 given full physical assistance with a particular toy										
2 given partial physical assistance with same toy										
3 given model										
4 independently plays with the toy										
(Repeats with other toys.)										

9. *Keeping data*. Everything is now ready to use, and data keeping becomes the next issue. With the routines written, objectives and teaching sequences inserted, keeping data becomes simple. Make a grid beside the teaching sequences permitting successes and failures to be charted over time.

Before beginning, establish a baseline level in the skill to determine the step at which the student is to begin. Decide on criteria for moving ahead to the next step, such as two or three consecutive "corrects." Decide on the rate of taking data, based on the practicality of doing it every time the routine is done, keeping in mind the value of continuous data. An example of an individualized arrival routine prepared as a data sheet follows:

Carry out leisure activity

The class is now set up with objectives for each student, carried out during functional and appropriate activities, and a system for taking data is in place. The student should be on his/her way to making real progress which will be measured accurately and consistently.

To conclude, the paper provides a rationale for routine-based programming and has demonstrated its application with students having severe and multiple handicaps.

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